

**Assistant Commissioner's Corner Featuring  
Guest Writer:**

**James King, Vice Chancellor  
Tennessee Technology Centers**



Attaining a postsecondary credential is essential for obtaining a job in today's economy. Employers tend to look today for specific skill sets rather than a degree. The focus is on the success rate of postsecondary institutions helping students complete their training program of choice and find employment in the field. The Tennessee Technology Centers (TTCs), a statewide system of 27 institutions which provide a wide range of one to two year technical and/or occupational educational programs, has become the latest model in higher education for student success.

The TTCs' mission is to serve as the premier provider of workforce development throughout the state. TTCs provide competency-based training of the highest quality that is economical and accessible. While other postsecondary institutions claim to do the same thing, the Centers are unique in that their completion and placement rates are very high. TTCs' completion rates range between 75% and 90% and their placement rates range between 75% and 95% for placement in a field related to the student's area of study. With completion rates averaging 75% annually, and placement rates for those completers in their field of training averaging 83%, the TTCs' model is being studied across the nation. In a report commissioned by

Complete College America, John Hoops wrote that "there is no other state postsecondary system that comes anywhere close to achieving these outcomes." Integrated Postsecondary Education Data System (IPEDS) data shows that out of 1,145 postsecondary institutions, only 105 report an average "150 percent of time" graduation rate above 50% for the last five years. All 27 of the TTCs were included in the 105 institutions.

The TTCs have a unique approach to helping students reach a successful completion status with four elements: program structure, competency-based training, student services, and technology foundations. The program structure is simply either full-time or part-time with little choice in the structure of the classes taken. This process eliminates confusion and allows the student to focus on learning and completion.

The competency-based tradition allows students to "learn by doing". Training programs at the TTCs prepare students with the right skills to succeed in the workplace and build a career. Learning takes place in environments that are as closely modeled with work environment expectations. Student services can be understood as an "embedded case management" system. The faculty, staff and administration maintain a network of information and communication surrounding nearly all the students. Personnel of the Centers, as a team, take responsibility for organizing and providing student services. The fourth element of the successful completion model involves technology foundations—a model of developmental education that is integrated into the training program and highly effective.

Historically, the TTCs have worked hard to deliver occupational and technical education in a highly integrated and cohesive approach. Our Centers build in accountability for completion and placement across the whole institution, and it shows in our completion and placement rates. In the Harvard report, *Pathways to Prosperity*, "27% of people with postsecondary licenses or certificates—credentials short of an associate's degree—earn more than the average bachelor's degree recipient". Our mission is to be providers of workforce development training, and when students find employment in their field of study, our efforts become a model for student success.

**For more information on Tennessee Technology Centers, visit:**

<http://www.tbr.state.tn.us/offices/tennesseetechnologycenters.aspx?id=322>

## CTE LEADER RECOGNITION

Thank you, Mr. Ralph Barnett, for your dedicated service as Assistant Commissioner for Career and Technical Education. We appreciate your leadership, your mentorship, but most of all, we appreciate your friendship. We wish you the best in your future endeavors and will leave the CTE light on for you. As Bill Moss, Wilson County CTE Director, often says, "Don't be a stranger."



**Ralph Barnett, Assistant Commissioner  
Career and Technical Education  
2003-2011**

*If your actions inspire others to dream more,  
learn more, do more and become more,  
you are a leader.  
John Quincy Adams*

## CHARACTERISTICS OF OUTSTANDING CTE PROGRAMS

The Tennessee Council for Career and Technical Education has identified nine characteristics of outstanding CTE programs. An Outstanding CTE Program utilizes the following characteristics to become the best:

1. Student focused
2. Fully integrates rigorous, higher level academic instruction and application including, but not limited to, mathematics, English/reading/communication, and science
3. Postsecondary transition in place including, but not limited to, dual credit/dual enrollment
4. Active participation and inclusion of post secondary partners in development and design

5. Administrative support
6. Community support
7. Innovative approach to teaching and learning strategies
8. Includes work-based learning or school-based enterprise
9. Active participation and involvement of the advisory committee in development and design

The identified characteristics are supported by research from the National Research Center for Career and Technical Education and the Southern Regional Education Board.

Based on these criteria, the Council has recognized four Career and Technical Education programs throughout the state as demonstrating outstanding characteristics:

Automotive Career Academy, Anderson County Career and Technical Center

Contact: Tricia Jones, and Jennifer Goins

Virtual Enterprise, Blackman High School

Contact: Cindy Boyd

Project Lead the Way, Cleveland High School

Contact: Steve Clariday

Culinary Arts, Sevier County High School

Contact: Sissy Ivy

If you feel one of your programs demonstrates these outstanding characteristics, contact Thom Smith, executive director of the Council, for more information at [thom.smith@tn.gov](mailto:thom.smith@tn.gov).

## STUDENT TRANSITIONS VIA CTE MANUFACTURING/ENGINEERING ACADEMY

Oak Ridge Schools Carl Perkins Reserve Grant for 2009-2010 entitled "Students Successfully transitioning from Middle School to High School to Post-Secondary Education Via a CTE Manufacturing/Engineering Academy" has focused upon preparing students for a seamless transition from middle school to post-secondary using the strategy of a career thematic academy. The grant provided funding for Project Lead the Way equipment and teacher training, professional development, and travel. The activities focused on

academic integration, high expectations, extra help for academic engagement and success, academic and skill training for life-long learning in a high demand, high wage, skill career cluster. Goals addressed TSCCP and SIP goals of raising graduation rate and increasing graduation of CTE completers as well as academic achievement. Two favorite projects enjoyed and integrated with math and science classes in both middle school and high school classes are the Rube Goldberg Projects and the Marble Sorter Projects.

### **RUBE GOLDBERG PROJECTS**

The students were charged with building a “Rube Goldberg” device—a mechanical system comprised of numerous steps to accomplish a simple task—that incorporated each of the six simple machines. Team’s of two were required to take the potential or kinetic energy supplied from the previous device to power their unit through at least one of the six simple machines and then transfer potential or kinetic energy to the next group. The first team could initiate the system manually but after that no human interaction was allowed. The final group was required to raise a small flag to a height of six feet.

Teamwork, mechanical skill, communication skills, and problem solving skills were required to accomplish the tasks.

### **MARBLE SORTER PROJECTS**

The task was to sort three different colored marbles using the Fischertechnik’s mechanical and electrical components and FT controllers and software. Working in teams of two, students applied control logic, optical sensing, mechanical devices of their design, and their problem solving skills to solve this simulation of a glass recycling unit.

Fourteen of fifteen teams were able to successfully sort twelve marbles of three different colors using fourteen unique and creative approaches to the problem.

## **Engineering/Computer Integrated Manufacturing**

Mitchell Heidel, CTE Director  
Morgan County Career & Technical Center

Morgan County Career and Technical Center has significantly benefited from the recent Engineering/Computer Integrated Manufacturing Reserve Grant.

The Robotics component of the grant has sparked wide student interest in this course. We expect next term enrollments to have full classes when the word gets out.

The students have developed a robot with a camera system that has a range of 150 feet. Their idea was to use these as intruder locator devices for school safety issues to reduce threatening situations in areas where the schools have no cameras. The Morgan County School Health Coordinator offered to provide a grant for \$2,000 this year for the class to build a robot for each of our four high schools. She will also provide funding for the other four schools next year. The teacher and students will give a robot demonstration to the Morgan County School Board on March 29, 2010.

The Mastercam program, which was part of this grant, has enabled the class to assist our technology department in reducing costs for the installation of LCD projectors for teachers. The students write a program for a mount bracket design for the LCD projectors. The mount brackets are then manufactured and powder coated in the machine technology shop. By using our school maintenance to install them and our machine technology students to manufacture them, we can save \$350.00 per unit. With 23 units to install this year, we can save the school system over \$8,000.00.



*Pictured L-R: Morgan County students Ethan Dyer and Sam Campbell and instructor Kevin Potter*

## **Loudon County Enters New Age with Distance Learning**

Cynthia Carnes, CTE School Counselor

“I think distance learning is great. It really gives kids a new way to learn technology at school,” said Kaylan Chaparro from Greenback High School as she described her thoughts on how distance learning is changing the way students are learning in Loudon

County. In May 2009, Loudon County was a fortunate recipient of a Perkins Reserve Grant to fund their new Distance Learning Program. With help from [PCS and Tandberg](#), Loudon County is off the ground and running with multiple sites and two programs of study to share across the county.

Greenback's Teacher Training program of study is being broadcast to Loudon High School, where this program is not offered. Loudon High School is broadcasting their Graphic Arts Program of Study to Greenback and Loudon County Alternative School.

Tandberg units at Loudon High School, Greenback High School, and Loudon County Alternative School have bridged the gap between physical distance and the introduction of new programs at various schools. Ashley Covington, a junior at the Loudon County Alternative School explained, "Even though we aren't in the classroom, we can still learn all the hands-on skills the same as students who are at Loudon High School."

One of the major hurdles the Loudon County Alternative School faced was minimal instruction for CTE courses. With the distance learning program, two students are able to take Graphic Arts while attending the Alternative School.

Janine Stigall, Alternative School teacher, said this program has not only benefited the students in the distance learning class, but the Alternative School as a whole. "This has allowed the Alternative School to broaden its curriculum in areas where we would otherwise not be able to hire another highly qualified teacher."

### **Learning from Afar: Endless Opportunities with Distance Learning**

Susan Parr, Technology Coordinator

Union City High School is pleased to announce that the equipment awarded in the 2009-2010 CTE Reserve Grant, "Learning from Afar-Endless Opportunities with Distance Learning" is fully operational. Students at Union City High School in the Lifetime Connections class attended the first video conference offered in the new distance learning lab on February 18. The class delivered by The Virtual School @Vanderbilt University was entitled "Social Media and You." Students, teachers and administrators were excited upon entering the room and anxious for the session to begin. The excitement continued throughout

the presentation and into the next day when there was follow-up discussion during class. The students were interested in the subject matter and the fact that they were online with students from across the United States. Social networking is so relevant to high school students because the majority of them spend time on Facebook, e-mail, and other chat pages.

The second video conference was held for our technology application students on a much different subject, "Careers in Engineering." This presentation was met with the same enthusiasm as the first class. The class was attended by high school students from New Jersey, Pennsylvania, New York, and Tennessee. What a great way for our students to share in question and answer sessions and to see that the concerns that they have are much the same as other students throughout the United States.



### **Clay County High School Benefits from No-Zero Policy**

John Denton, Principal  
and

Melissa White,  
*High Schools That Work* Site Coordinator

As a *HIGH SCHOOLS THAT WORK* site, Clay County High School (CCHS) continually seeks methods to implement high expectations and rigor for all students. Beginning in the fall of 2009, this rural high school of approximately 325 students chose to institute a no-zero policy to be supplemented by a program called ICU, based on the book *The Power of ICU* by Danny Hill and Jayson Nave. The basic premise of ICU is that the traditional zero policy used by practically every school enables students to fail. Rather than holding students responsible, the zero system actually places the student in control of the course work. ICU places the faculty in control and provides students the support to experience success.

At CCHS, *Google docs* is used by faculty and lifeguards to document missing and/or incomplete assignments and the steps taken to insure completion.



The steps include calling parents, attending ICU lunch, missing school activities and free time, and utilizing extra help before, during, and after school. This is a program that takes time to achieve buy-in by the faculty; initially it can involve more work to get the program up and running. At CCHS, the ICU program is still a work in progress, as new methods to hold students responsible are explored and invented to meet the needs of the faculty and students.

The results justify the hard work of everyone involved. After just one year of implementation, the average number of students failing classes dropped dramatically. The four year average for the school years 2006-09, was 57 students failing 96 classes per year. The end result for the 2010 school year was 10 students failing 13 classes, all of which were made up during summer credit recovery.

### **America's School Counselor of the Year Award**



Randy A. McPherson, Ed.D., NBCT, NCC, NCSC, a school counselor from Trezevant Career & Technology Center, Memphis City Schools, has been named the top school counselor in America. A school counselor for more than 15 years, McPherson is an innovative thinker with the compassion needed to work with students and families. Randy also serves on Tennessee's Career Guidance Committee.

Dr. Mc, as his students call him, goes the extra mile to ensure all students have the necessary resources and experiences that will prepare them for their post-secondary education and careers. His work at Trezevant Career & Technology Center helped earn its distinction as one of 10 Model Alternative Programs in the nation. At Trezevant Career and Technology Center, students from five high schools in northwest Memphis spend half of every school day learning skills

such as culinary, cosmetology, health care and forensics.

It's fitting that McPherson is getting rewarded for helping students with the woes of young employment. He went through a lot of that himself. As a youngster in farmland near Henderson, Tenn., when he was too small to lift bales of hay, his job was to straighten out loaded bales. "I was the gofer's gofer," he recalled.

When he went to his own guidance counselor as a high school student, he relayed dreams of going to Tennessee Tech and studying engineering, but he says she told him his family was too poor for that and he should get a job at a farm or a factory. So that's what he did. He had already done the hay bale work, assisted a local veterinarian and graded eggs at his uncle's hatchery. So he got a job working 10 hours a night on the graveyard shift at a manufacturing plant. His job was to manually place footlong piping into a vice, lower down a machine that would cut grooves into it, and then twist on a metal cap. "It was mindless, bone-chilling work," he said. "And I remember looking around the factory floor and seeing these men in their 40s, 50s and 60s who were still doing the same thing, maybe earning 25 cents an hour more than I was."

Desperate, he headed into a new job field called computing. He and some friends drove to Memphis and signed up for community college classes. They jammed into a duplex and he paid bills by being a stockboy at TG&Y (Toys, Goods & Yarn). He pursued multiple degrees in education at what was then Memphis State University, all the way up to a doctorate. He was a Walgreens store manager when a friend who worked at Memphis State helped him get a job as a freshman admissions counselor. From there, the jump to high school was natural.

When McPherson was notified of the award, he had numbers on hand: 103 of the school's 135 seniors had just filled out sheets about applying to college. But, he was quick to add, "counseling used to be about the top and the bottom; that's only about 30 percent of students. The other 70 percent is what most of us are. So you can't just be about numbers. Real education is about people, not numbers."

The School Counselor of the Year program honors the best of the best -- school counselors who are running a top-notch, comprehensive school counseling program at either the elementary, middle or high school level. This program brings up to 10 finalists and their nominators to Washington, D.C., in early February, where they participate in a congressional briefing, meet with their members of Congress and are honored at the School Counselor of the Year Gala. From these finalists, one school counselor of the year is selected.